CLAIMS

We claim:

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
   a. SEQ ID NO: 2, 6, 8, 10, 14, 16;
   b. SEQ ID NO: 2, 6, 8, 10, 14, 16 wherein amino acid Serine is retained in position 12; and
   c. mature form of SEQ ID NO: 2, 6, 8, 10, 14, 16.
2. A composition comprising the polypeptide of claim 1 and a pharmaceutically acceptable carrier.
3. A kit comprising, in one more containers the composition of claim 2.
4. A method of preventing or inhibiting cell death comprising contacting the cells with a polypeptide composition of claim 1.
5. The method of claim 4 wherein the cells are neuronal cells.
6. The method of claim 4 wherein the cells are cerebrovascular smooth muscle cells.
7. A method of preventing or inhibiting cell death in a mammal comprising administering a therapeutically effective amount of the polypeptide of claim 1 alone or together with a pharmaceutical carrier.
8. The method of claim 7 wherein the mammal is human.
9. The method of claim 7 wherein the cells are neuronal cells.
10. The method of claim 7 wherein the cells are cerebrovascular smooth muscle cells.
11. A method of treating or preventing a neurodegenerative disease, or a condition of the central nervous system associated with neuronal death, comprising administering a therapeutically effective amount of the polypeptide of claim 1 alone or together with a pharmaceutical carrier to a human patient suffering from, or believed to be at risk of, the disease.
12. The method of claim 11 wherein the disease or disorder is selected from a group consisting of Alzheimer's disease, Parkinson's disease, Huntington's disease, multiple sclerosis, spinocerebellar ataxia, amyotrophic lateral sclerosis, muscular dystrophy, peripheral neuropathy, traumatic head injury, spinal cord injury or stroke.
13. A method of preventing, reducing or slowing the progression of symptoms of a neurodegenerative disease, or a condition of the central nervous system associated with neuronal death, comprising administering a therapeutically effective amount of the polypeptide of claim 1 alone or together with a pharmaceutical carrier to a human patient suffering from the symptoms.
14. The method of claim 13 wherein the symptom is selected from the group consisting of cognitive impairment, learning deficit, memory deficit, memory loss, motor function impairment, tremor or mood disorder.

15. The method of claim 7, claim 11 or claim 13 wherein the polypeptide of claim 1 alone or together with a pharmaceutical carrier is administered by intranasal, intravenous, intracranial, intracerebral and transmucosal route.

16. An isolated polynucleotide comprising a nucleic acid sequence selected from the group consisting of:

a. a nucleic acid sequence that encodes a polypeptide of amino acid sequence SEQ ID NO: 2, 6, 8, 10, 14, 16;

b. a nucleic acid sequence that encodes a polypeptide of amino acid sequence SEQ ID NO: 2, 6, 8, 10, 14, 16, and wherein the encoding polypeptide will retain amino acid Serine in position 12;

c. a nucleic acid sequence that encodes the mature form of a polypeptide of amino acid sequence SEQ ID NO: 2, 6, 8, 10, 14, 16.

17. A vector comprising the polynucleotide of claim 16.

18. The vector of claim 17, wherein a promoter is operably linked to the said polynucleotide.

19. A cell comprising the vector of claim 17.

20. An isolated antibody that immunospecifically binds to the polypeptide of claim 1.

21. The antibody of claim 20 wherein the antibody is a monoclonal antibody.

22. The antibody of claim 20, wherein the antibody is a humanized antibody.

23. A method for screening a compound for a modulator or a mimicking activity associated with the polypeptide of claim 1.

24. A method of modulating the activity of the polypeptide of claim 1 comprising contacting the polypeptide of claim 1 with a compound that binds to said polypeptide in an amount sufficient to modulate the activity of the polypeptide.

25. A method of mimicking the activity of the polypeptide of claim 1 comprising contacting the polypeptide of claim 1 with a compound that binds to said polypeptide in an amount sufficient to mimic the activity of the polypeptide.